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(FILE 'HOME' ENTERED AT 17:11:16 ON 10 MAR 2003)

FILE 'REGISTRY' ENTERED AT 17:11:45 ON 10 MAR 2003
E "ADENOSYLMETHIONINE"/CN 25
E "S-ADENOSYL-L-METHIONINE"/CN 25
L1 14 S E3 OR E4 OR E5 OR E7 OR E9 OR E11 OR E14 OR E18 OR E19 OR E28

FILE 'CAPLUS' ENTERED AT 17:13:58 ON 10 MAR 2003
L2 3210 S L1
L3 130 L2 AND SALT
L4 12 L3 AND (SULFONIUM OR CHIRAL? OR ENANTIOM? OR DIASTEREOM?)

=> d l4 total ibib abs

L4 ANSWER 1 OF 12 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:158385 CAPLUS
DOCUMENT NUMBER: 136:205441
TITLE: **Enantiomers** of S-adenosyl-L-methionine
INVENTOR(S): Hebert, Rolland F.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 7 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002025926	A1	20020228	US 2001-943243	20010830
PRIORITY APPLN. INFO.:			US 2000-229151P P	20000830

AB **Enantiomers** of S-adenosyl-l-methionine, their stable **salts** and their uses are described. These compns. possess potent activity in treating various conditions involving hypomethylation and transulfuration reactions and are valuable for use as active constituents in pharmaceutical compns. For example, (S,S)-S-adenosylmethionine was prepared and stabilized using p-toluene sulfonate. (S,S)-S-adenosylmethionine enteric-coated tablets (400 mg) were administered twice daily for 14 days or until remission of depression symptoms in an open, non-blind study to 10 volunteers (one patient declined to continue the study after beginning). All patients had normal results on pre-study medical examns., including laboratory examns. Eight of the nine patients who completed the trial improved over the 14 days, while one patient had no change at all. No side effects were noted or reported by any of the patients nor as measured by laboratory or phys. examination (S, S)-S-adenosylmethionine 400 mg twice daily appeared to be safe and effective in this small, non-blinded study of depression.

L4 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:868476 CAPLUS
DOCUMENT NUMBER: 136:5067
TITLE: Process for the preparation of pharmaceutically acceptable **salts** of (SS-RS)-S-adenosyl-L-methionine
INVENTOR(S): Berna, Marco; Sivieri, Lino; Santambrogio, Gianni;

Valoti, Ermanno
PATENT ASSIGNEE(S): Chementecno S.r.l., Italy
SOURCE: PCT Int. Appl., 18 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001090130	A1	20011129	WO 2001-EP3633	20010330
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1283845	A1	20030219	EP 2001-943206	20010330
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002010147	A1	20020124	US 2001-829906	20010411
US 2002173012	A1	20021121	US 2002-142876	20020513

PRIORITY APPLN. INFO.: IT 2000-MI1158 A 20000525
WO 2001-EP3633 W 20010330
US 2001-829906 A3 20010411

AB The present invention relates to a process for the preparation of pharmaceutically acceptable **salts** of (SS,RS)-S-adenosyl-L-methionine and allows one to obtain the salified (RS)-(+)-S-adenosyl-L-methionine diastereoisomer in amts. ≤3% with respect to the salified (SS)-(+)-S-adenosyl-L-methionine diastereoisomer; the **salts** that can be obtained by the process of the invention keep their configuration stable in time.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:790635 CAPLUS
DOCUMENT NUMBER: 132:255863
TITLE: Synthesis and characterization of a new class of stable S-adenosyl-L-methionine **salts**
AUTHOR(S): Morana, A.; Di Lernia, I.; Carteni, M.; De Rosa, R.; De Rosa, M.
CORPORATE SOURCE: CNR, Institute of Food Science and Technology, Avellino, 83100, Italy
SOURCE: International Journal of Pharmaceutics (2000), 194(1), 61-68
CODEN: IJPHDE; ISSN: 0378-5173
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB S-adenosyl-l-methionine (SAM) is an important metabolic intermediate that serves as a donor of Me and aminopropyl groups to a variety of acceptor mols. The mol. in vitro is unstable both in solution and in crystalline form

undergoing irreversible conversion to 5'-methyltioadenosine (MTA) and homoserine lactone. Since this form of instability seems to be prevented in the cell of the living organism by bonds with macromols., we designed and developed a novel class of **salts** of SAM with large size anions to improve the stability of the **sulfonium** compound outside the cell. For this purpose we synthesized and characterized by NMR and IR spectroscopy anions consisting of amide derivs. of taurine with fatty acids. Stability studies performed with the new SAM **salts** indicate that SAM becomes much more stable when it interacts with large size anions and in fact, more than 84% of the SAM is recovered after 36 mo in lyophilized samples. The high stability of the new products widens the possibility of new therapeutic applications of SAM in human therapy.

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 12 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1977:602064 CAPLUS
DOCUMENT NUMBER: 87:202064
TITLE: Determination of the absolute configuration at the **sulfonium** center of S-adenosylmethionine. Correlation with the absolute configuration of the **diastereomeric** S-carboxymethyl-(S)-methionine **salts**
AUTHOR(S): Cornforth, John Warcup; Reichard, Scott A.; Talalay, Paul; Carrell, H. L.; Glusker, Jenny P.
CORPORATE SOURCE: Milstead Lab. Chem. Enzymol., Shell Res. Ltd., Sittingbourne/Kent, UK
SOURCE: Journal of the American Chemical Society (1977), 99(22), 7292-300
CODEN: JACSAT; ISSN: 0002-7863
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The absolute configuration of the **sulfonium** center of naturally-occurring S-adenosyl-L-methionine (I) was (S) by degradn. of enzymically-produced 14CH3-labeled I with alkali and IO4- and correlating the resulting S-carboxymethyl derivative (II) with synthetic **diastereomeric** S-carboxymethyl-L-methionine TNB **salts** (TNB = 2,4,6-trinitrobenzenesulfonate). L-methionine was treated with ICH2CO2H to give **diastereomeric** (R)- and (S)-S-carboxymethyl-L-methionine [(R)- and (S)-III] which were separated as their polyiodide **salts** and then each **diastereomer** was converted to its TNB **salt**. The absolute configuration of (R)-III.TNB was determined by x-ray anal.; II was correlated with (S)-III.TNB.

L4 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1966:106143 CAPLUS
DOCUMENT NUMBER: 64:106143
ORIGINAL REFERENCE NO.: 64:20069d-e
TITLE: Enthalpy changes accompanying the transfer of a methyl group from S-adenosylmethionine and other **sulfonium** compounds to homocysteine
AUTHOR(S): Mudd, S. Harvey; Klee, Werner A.; Ross, Philip D.
CORPORATE SOURCE: Natl. Insts. of Health, U.S. Dept. of Health, Educ., & Welfare, Bethesda, MD
SOURCE: Biochemistry (1966), 5(5), 1653-60
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The enthalpy changes during methyl transfer from S-adenosylmethionine, dimethylpropiothetin, or trimethylsul-. fonium **salts** to homocysteine in neutral aqueous buffered solution have been measured calorimetrically. The observed values are compared to previously reported values for similar reactions. Transfers from these **sulfonium** compds. are all highly exothermic reactions, but there are relatively large differences in the changes observed within the present series. Possible reasons for these differences are discussed. It is suggested that differential hydration may play an important role.

L4 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1966:37893 CAPLUS
DOCUMENT NUMBER: 64:37893
ORIGINAL REFERENCE NO.: 64:7080g-h
TITLE: The production of S-adenosyl-L-methionine and S-adenosyl-L-ethionine by yeast
AUTHOR(S): Schlenk, Fritz; Zydek, Cynthia R.; Ehninger, Dimis J.; Dainko, Julia L.
CORPORATE SOURCE: Argonne Natl. Lab., Argonne, IL
SOURCE: Enzymologia (1965), 29(3-5), 283-98
DOCUMENT TYPE: Journal
LANGUAGE: English
AB L-Methionine (I) or L-ethionine (II) was incorporated into the culture medium in which yeast metabolized aerobically and produced the necessary quantity of ATP. ATP reacted with the S-containing amino-acid to yield S-adenosyl-L-methionine (III) and S-adenosyl-L-ethionine (IV). The optimum quantities of glucose, (NH4)2SO4, Mg, Mn, Zn, I, or II on the formation of III or IV were investigated. Conditions suitable for extraction of the yeast cell by HClO4 or Cl3CCO2H were reported. A modified chromatographic procedure was recommended for the isolation of the **sulfonium** compds., in which nucleic acid fragments and coenzymes pass through the column while the **sulfonium** compds. were retained; these were eluted by weak acid. The quality of prepns. obtained in this way suffice for many exptl. purposes.

L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1963:410396 CAPLUS
DOCUMENT NUMBER: 59:10396
ORIGINAL REFERENCE NO.: 59:1933c-e
TITLE: Some effects of ionizing radiation on methionine **sulfonium** compounds
AUTHOR(S): Schlenk, F.; Dainko, J. L.
CORPORATE SOURCE: Argonne Natl. Lab., Argonne, IL
SOURCE: Radiation Res. (1962), 16, 327-35
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB In dilute aqueous solns. S-methylmethionine is more sensitive to x-rays or γ-rays than S-adenosylmethionine, but neither shows any unusual sensitivity. Irradiation products of both compds. include methionine, methionine sulfoxide, 3-methylmercaptopropylamine, 3-aminopropanal, homoserine, and homoserine lactone. In addition S-adenosylmethionine gives 5'-methylthioadenosine and its sulfoxide, adenine, and hypoxanthine. In yeast cells (Candida utilis) irradiated in suspension S-adenosylmethionine was neither destroyed nor released from vacuoles by 400,000 r. of x-radiation. The enzymic synthesis of the compound, including formation of the purine and ribose structures from simple precursors, was unchanged after exposure of yeast cells to 400,000 r. of x-rays or 1.0 Mrad of

γ-radiation.

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1963:83750 CAPLUS
DOCUMENT NUMBER: 58:83750
ORIGINAL REFERENCE NO.: 58:14425h,14426a
TITLE: Paper chromatography of several classes of compounds; correlated Rf values in a variety of solvent systems
AUTHOR(S): Fink, Kay; Cline, R. E.; Fink, R. M.
CORPORATE SOURCE: Univ. of California, Los Angeles
SOURCE: Anal. Chem. (1963), 35, 389-98
CODEN: ANCHAM; ISSN: 0003-2700
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB Rf values for 388 compds., including amino acids, purines, pyrimidines, sugars, organic acids, and compds. reacting with acidic p-dimethylaminobenzaldehyde, were determined by ascending paper chromatography with 10 different solvent systems. Compds. are classified further into 6 tables according to the method of detection on the chromatogram. The data are useful for the determination of radioactive metabolites which are below the sensitivity of colorimetric methods.

L4 ANSWER 9 OF 12 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1963:21681 CAPLUS
DOCUMENT NUMBER: 58:21681
ORIGINAL REFERENCE NO.: 58:3627d-e
TITLE: Alkaline hydrolysis of s-adenosylmethionine in tritiated water
AUTHOR(S): Schlenk, F.; Dainko, J. L.
CORPORATE SOURCE: Argonne Natl. Lab., Argonne, IL
SOURCE: Biochem. Biophysics Res. Commun. (1962), 8, 24-7
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB The alkaline hydrolysis of s-adenosylmethionine in tritiated water yields an ethylenic intermediate (I) with a double bond at C atom 4 and 5 of the ribose. Adenine is split off. The furanoid ring closes at C-4 to yield D-ribose and L-lyxose **sulfonium** compds. The presence of I is indicated by the uptake of tritium into the carbohydrate moiety. The product is s-pentosylmethionine

L4 ANSWER 10 OF 12 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1962:73694 CAPLUS
DOCUMENT NUMBER: 56:73694
ORIGINAL REFERENCE NO.: 56:14384i,14385a-d
TITLE: The alkali hydrolysis of **sulfonium** nucleosides
AUTHOR(S): Frank, W.; Wieczorkowski, J.; Hughes, N. A.; Baddiley, J.
CORPORATE SOURCE: Univ. Durhan, Newcastle-upon-Tyne, UK
SOURCE: Proc. Chem. Soc. (1961) 449-50
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB Decomposition of active methionine, S-(5'-adenosyl)methionine, in alkali was known to give adenine and a **sulfonium** sugar which underwent further decomposition When the reaction was carried out in Na methoxide and MeOH, Me glycosides were formed, whereas with Na n-butoxide and BuOH, **sulfonium** Bu glycosides were produced. The properties of

sulfonium nucleosides were examined Me 2,3-O-isopropylidene-5-O-(p-tolylsulfonyl)-β-D-ribofuranoside was converted to Me 2,3-O-isopropylidene-5-S-methyl-5-thio-β-D-ribofuranoside (I) by reaction with Na methyl sulfide. The isopropylidene group was removed and the product treated with MeI to give Me 5-dimethylsulfonium-β-D-ribofuranoside iodide (II). Some of II was oxidized by periodate, reduced with NaBH4, and hydrolyzed with acid. From the mixture 1-deoxy-1-dimethylsulfonio-L-glycerol was isolated as the reineckate and converted to the acetate, [α] 20D 38° and iodide, [α] 20D 27°, which did not differ except in the sign of the optical rotation from the corresponding **salts** of 1-deoxy-1-dimethylsulfonio-D-glycerol prepared from 2,3-O-isopropylidene-1-O-(p-tolylsulfonyl)-D-glycerol. However, if II were treated with Na methoxide in MeOH before formation and isolation of the 1-deoxy-1-dimethylsulfonioglycerol **salts**, extensive racemization occured (acetate, [α]20D 0.5°, iodide, [α]20D 0.2°). This indicated that the alkali-treated glycoside was a mixture of the D-ribose and L-lyxose derivs. A sequence of reactions for the decomposition of S-(5'-adenosyl)methionine was proposed involving an elimination of adenine by the type of reaction demonstrated for β-substituted ethyldimethylsulfonium compds. (CA 50, 3305e) followed by reaction between the ethylenic intermediate and OH- to give **sulfonium** derivs. of both D-ribose and L-lyxose.

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1962:33353 CAPLUS
DOCUMENT NUMBER: 56:33353
ORIGINAL REFERENCE NO.: 56:6371e-g
TITLE: S-Methylmethionine- and S-adenosylmethionine-homocysteine transmethylase in higher plant seeds
AUTHOR(S): Turner, James E.; Shapiro, Stanley K.
CORPORATE SOURCE: Argonne Natl. Lab., Argonne, IL
SOURCE: Biochim. et Biophys. Acta (1961), 51, 581-4
DOCUMENT TYPE: Journal
LANGUAGE: English
AB S-Methylmethionine- and S-adenosylmethionine-homocysteine transmethylase activity was detected in cell-free homogenates of seeds of several plant species. S-Methylmethionine and S-adenosylmethionine served as Me donors to homocysteine, with the formation of methionine. The reaction was followed by the use of donor mols. labeled with C14H3 groups. Homogenates of seeds from corn, garden pea, lima bean, and tobacco had similar specific transmethylase activities, but only about 10% of that of yeast or liver exts.; lima bean and pea seeds contained more activity/g. seed than corn or tobacco. Sunflower seed was very low in this activity. S-Methylmethionine was a better Me donor than S-adenosylmethionine.

L4 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1959:112536 CAPLUS
DOCUMENT NUMBER: 53:112536
ORIGINAL REFERENCE NO.: 53:20226c-e
TITLE: Improved procedure for the isolation of S-adenosylmethionine and S-adenosylethionine
AUTHOR(S): Schlenk, F.; Dainko, J. L.; Stanford, S. M.
CORPORATE SOURCE: Argonne Natl. Lab., Lemont, IL
SOURCE: Arch. Biochem. Biophys. (1959), 83, 28-34
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB cf. C.A. 52, 7430fh. Improvements are reported for the preparation of S-adenosylmethionine and S-adenosylethionine from yeast cells. For the biosynthesis of compds. with the L-configuration in the amino-acid moiety, dried activated bakers' yeast is the material of choice; for the corresponding biosynthesis from the D-isomers, Torulopsis is superior to Saccharomyces. Adaptive enzyme formation does not seem to play a part in the biosynthesis. The purification of the **sulfonium** compds. was simplified by replacing one of the chromatographic procedures by precipitation with Reinecke **salt**. The stability of the **sulfonium** compds. under storage is discussed.

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(FILE 'HOME' ENTERED AT 17:11:16 ON 10 MAR 2003)

FILE 'REGISTRY' ENTERED AT 17:11:45 ON 10 MAR 2003
E "ADENOSYLMETHIONINE"/CN 25
E "S-ADENOSYL-L-METHIONINE"/CN 25
L1 14 S E3 OR E4 OR E5 OR E7 OR E9 OR E11 OR E14 OR E18 OR E19 OR E28

FILE 'CAPLUS' ENTERED AT 17:13:58 ON 10 MAR 2003
L2 3210 S L1
L3 130 L2 AND SALT
L4 12 L3 AND (SULFONIUM OR CHIRAL? OR ENANTIOM? OR DIASTEREOM?)

FILE 'STNGUIDE' ENTERED AT 17:15:48 ON 10 MAR 2003

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L6 84 L5 NOT L4
L7 82 L6 NOT PY>2000
L8 76 L2 AND SULFONIUM
L9 5 L8 AND (CHIRAL? OR ENANTIOM? OR DIASTEREOM?)
L10 4 L9 NOT L4

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L10 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1989:497696 CAPLUS
DOCUMENT NUMBER: 111:97696
TITLE: **Chiral** stability of S-adenosylmethionine - mutarotation without pseudorotation
AUTHOR(S): Uzar, Horst C.
CORPORATE SOURCE: Inst. Org. Chem., Univ. Siegen, Siegen, D-5900, Fed. Rep. Ger.
SOURCE: Liebigs Annalen der Chemie (1989), (7), 607-10
CODEN: LACHDL; ISSN: 0170-2041
DOCUMENT TYPE: Journal
LANGUAGE: German
AB The isomerization of S-adenosylmethionine in the presence of different anions and at various temps. was determined by NMR spectroscopy. The rate of the epimerization at the **sulfonium** center was in good agreement with one of 2 previously reported values determined by another method. The reaction most likely proceeds by pyramidal inversion and takes place in solution as well as in the freeze-dried state.

L10 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1989:435586 CAPLUS
DOCUMENT NUMBER: 111:35586
TITLE: Specificity of S-adenosyl-L-methionine in the inactivaticn and the labeling of 1-aminocyclopropane-1-carboxylate synthase isolated from tomato fruits
AUTHOR(S): Satoh, Shigeru; Yang, Shang Fa
CORPORATE SOURCE: Dep. Biol. Sci., Tohoku Univ., Sendai, 980, Japan
SOURCE: Archives of Biochemistry and Biophysics (1989), 271(1), 107-12
CODEN: ABBIA4; ISSN: 0003-9861
DOCUMENT TYPE: Journal

LANGUAGE: English

AB 1-Aminocyclopropane-1-carboxylase (ACC) synthase (I), which catalyzes the conversion of S-adenosyl-L-methionine (AdoMet) to ACC, is irreversibly inactivated by its substrate, AdoMet. AdoMet has 2 **diastereomers** with respect to its **sulfonium** center, (-)-Ado-Met and (+)-AdoMet. The (+)- and (-)-AdoMet isomers were prepared from a com. source, and their activities as a substrate and as an inactivator of ACC synthase isolated from tomato fruits were compared. Only (-)-AdoMet produced ACC, whereas both (-)- and (+)-AdoMet inactivated I; (+)-AdoMet inactivated I 3-fold faster than (-)-AdoMet. Previously, it was shown that I was specifically radiolabeled when the enzyme was incubated with S-adenosyl-L-[3,4-14C]methionine. The present results further indicated that S-adenosyl-L-[carboxyl-13C]methionine, but not S-adenosyl-L-[methyl-14C]methionine, radiolabeled I. The data suggested that the 2-aminobutyric acid portion of AdoMet is linked to I during the autoinactivation process. A possible mechanism for I inactivation by AdoMet was discussed.

L10 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1981:551125 CAPLUS
DOCUMENT NUMBER: 95:151125
TITLE: S-adenosyl-L-methionine and S-adenosyl-L-homocysteine, an NMR study
AUTHOR(S): Stolowitz, Mark L.; Minch, M. J.
CORPORATE SOURCE: Chem. Dep., Univ. Pac., Stockton, CA, 95211, USA
SOURCE: Journal of the American Chemical Society (1981), 103(20), 6015-19
CODEN: JACSAT; ISSN: 0002-7863
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The conformations of the title compds. (I and II, resp.) were determined from their 360-MHz 1H NMR in D2O. The ribose of both compds. has a C3'-exo conformation, but I has 1 favored gauche-anti conformation about the C4'-C5' bond, whereas the orientation about the C4'-C5' bond of II is distributed between 2 gauche-anti rotamers. The methionine side chain of I undergoes rapid rotation about the Cα-Cβ and Cβ-Cγ bonds, whereas the side chain of II has a preference for the gauche-anti conformations about the Cα-Cβ bond. The 1H and 13C NMR of com. available (-)-I indicated the presence of a small amount of the (+)-**sulfonium diastereomer**.

L10 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1976:487099 CAPLUS
DOCUMENT NUMBER: 85:87099
TITLE: Potential inhibitors of S-adenosylmethionine-dependent methyltransferases. 5. Role of the asymmetric **sulfonium** pole in the enzymic binding of S-adenosyl-L-methionine
AUTHOR(S): Borchardt, R. T.; Wu, Yih Shiong
CORPORATE SOURCE: Dep. Biochem., Univ. Kansas, Lawrence, KS, USA
SOURCE: Journal of Medicinal Chemistry (1976), 19(9), 1099-103
CODEN: JMCMAR; ISSN: 0022-2623
DOCUMENT TYPE: Journal
LANGUAGE: English
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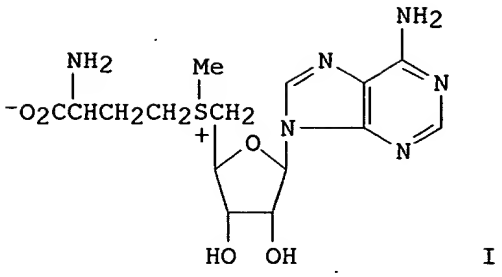

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AB For the transmethylations catalyzed by catechol O-methyltransferase (EC 2.1.1.6) [9012-25-3], phenylethanolamine N-methyltransferase (EC 2.1.1.28) [9037-68-7], histamine N-methyltransferase (EC 2.1.1.8) [9029-80-5], and hydroxyindole O-methyltransferase (EC 2.1.1.4) [9029-77-0], the natural **enantiomer** 10(-)-S-adenosyl-L-methionine[(-)-SAM][(-)-I] was active as a Me donor, while 903 (+)-SAM was inactive. (+)-SAM, prepared by enzymic resolution of (±)-SAM [**23095-97-8**], was a potent inhibitor of the enzyme-catalyzed transmethylations. The relation of configuration to enzyme binding and methyl transfer was discussed.